

Code: EC6T5

**III B.Tech - II Semester – Regular Examinations - May 2015**

**CELLULAR AND MOBILE COMMUNICATIONS  
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

- 1 a) Explain the operation of a cellular system in detail. 7 M  
b) Discuss the fading effects due to multipath time delay spread in detail. 7 M
- 2 a) What is the concept of frequency reuse and explain how it is useful in increasing the number of channels? 7 M  
b) Design an Omni directional antenna system in the worst case. 7 M
- 3 a) Derive the expression for power received in ground reflection model. 7 M  
b) Explain in detail about near distance propagation. 7 M
- 4 a) Explain the importance of the antenna height in reduction of co channel interference. 7 M

- b) Distinguish between co channel interference and non co channel interference. 7 M
- 5 a) Explain the synthesis of difference pattern. 7 M
- b) Explain in detail about minimum separation of cell site receiving antennas. 7 M
- 6 a) Write the procedure to allot the channels for the travelling mobile units. 7 M
- b) Discuss about channel sharing algorithm. 7 M
- 7 a) Explain the purpose of delaying a handoff. List out the advantages associated with that. 7 M
- b) Define dropped call rate. How dropped calls are considered? 7 M
- 8 a) With a neat sketch, explain the functional architecture and principal interfaces of GSM network. 7 M
- b) Define multiple accesses. Compare TDMA and CDMA. 7 M